



$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{5}$ $\frac{1}{6}$ $\frac{1}{7}$ $\frac{1}{8}$ $\frac{1}{9}$ $\frac{1}{10}$ $\frac{1}{11}$ $\frac{1}{12}$ $\frac{1}{13}$ $\frac{1}{14}$ $\frac{1}{15}$ $\frac{1}{16}$ $\frac{1}{17}$ $\frac{1}{18}$ $\frac{1}{19}$ $\frac{1}{20}$ $\frac{1}{21}$ $\frac{1}{22}$ $\frac{1}{23}$ $\frac{1}{24}$ $\frac{1}{25}$ $\frac{1}{26}$ $\frac{1}{27}$ $\frac{1}{28}$ $\frac{1}{29}$ $\frac{1}{30}$ $\frac{1}{31}$ $\frac{1}{32}$

100221" 266200T

Alignment Report of Gram +&- 16S align.MEG, using Clustal method with Weighted residue weight table.
Tuesday, November 27, 2001 4:14 PM

	10	20	30	40	50	60
Baebilis16S.SEQ	---	---	---	---	---	---
Banthracis16S.SEQ	---	---	---	---	---	---
Efaecalis16S.SEQ	---	---	---	---	---	---
Llactis16S.SEQ	---	---	---	---	---	---
Laonocyl16S.SEQ	---	---	---	---	---	---
Saureus16S.SEQ	---	---	---	---	---	---
Smutans16S.SEQ	---	---	---	---	---	---
Spneumon16S.SEQ	---	---	---	---	---	---
Spvogenes16S.SEQ	---	---	---	---	---	---
Maviun16S.SEQ	---	---	---	---	---	---
Mtb16S.SEQ	---	---	---	---	---	---
Ecoli o157 16S.SEQ	---	---	---	---	---	---
Xpneumonias 16S.SEQ	---	---	---	---	---	---
Actinolo16S.SEQ	---	---	---	---	---	---
Hinfluenzae 16S.SEQ	---	---	---	---	---	---
Bbrnchiseptica 16S.SEQ	---	---	---	---	---	---
Bparaptus16S.SEQ	---	---	---	---	---	---
Bpertussis 16S.SEQ	---	---	---	---	---	---
Bcopacia 16S.SEQ	---	---	---	---	---	---
Bmallei 16S.SEQ	---	---	---	---	---	---
Bpseudomallei 16S.SEQ	---	---	---	---	---	---
Ngonorhoeae 16S.SEQ	---	---	---	---	---	---
Nmening 16S.SEQ	---	---	---	---	---	---
Paeruginosa 16S.SEQ	---	---	---	---	---	---
Vcholerae 16S.SEQ	---	---	---	---	---	---
Yenterocolitica 16S.SEQ-N	---	---	---	---	---	---

FIG. 2A-1

100221" 26E62001

Alignment Report of Gram +8- 16S align.MEG, using Clustal method with Weighted residue weight table.

Tuesday, November 27, 2001 4:14 PM

	70	80	90	100	110	120	130	140	150	160	170
Bautilis16S.SEQ	..G..G..AT..G..G..	..C..C..ATGT..	..C..	..C..	..C..	..C..	..TAA..CT..	..C..G..	..C..G..	..C..G..	..166
Banthracis16S.SEQ	..G..G..TG..ATTA..G..	..CT..A..AGGT..	..C..	..C..	..C..	..C..	..CATAA..CT..	..C..G..	..C..G..	..C..G..	..164
Bifacalis16S.SEQ	..A..TT..G..A..AGG..	..G..G..G..G..	..C..	..C..	..C..	..C..	..CAATCA..G..	..ACT..	..A..GT..	..A..GT..	..155
Llactis16S.SEQ	..T..G..C..G..AG..TTG..	..G..G..G..G..	..C..	..C..	..C..	..C..	..TTGA..C..G..	..C..	..ATT..	..A..AT..	..184
Lmonocytis16S.SEQ	..G..G..G..G..G..	..CT..CAAGT..	..C..	..C..	..C..	..C..	..TAA..TTG..	..C..G..	..C..G..	..C..G..	..175
Saureus16S.SEQ	..G..G..G..G..G..	..C..ATGT..	..C..	..C..	..C..	..C..	..AT..A..C..G..	..T..	..A..	..A..	..162
Smittans16S.SEQ	..G..G..CA..CG..AAC..C..CTGT..	..ACACGGTGT..CTT..	..C..A..	..C..A..	..C..A..	..C..A..	..G..A..C..G..	..T..	..A..	..A..	..70
Spneumon16S.SEQ	..A..C..G..AG..AGGACCT..T..	..CTC..G..AT..	..T..A..	..T..A..	..T..A..	..T..A..	..C..A..C..G..	..T..	..A..	..A..	..131
Spnogensis16S.SEQ	..A..A..G..C..CT..CGGAG..T..ACT..	..ACT..	..A..	..A..	..A..	..A..	..CTGCACCTTC..	..GCTCG..	..T..GCT..	..T..GCT..	..170
Havium16S.SEQ	..A..A..G..CT..CT..CGGAG..T..ACT..	..ACT..	..A..	..A..	..A..	..A..	..CTGCACCTTC..	..GCTCG..	..T..GCT..	..T..GCT..	..175
MCb16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..173
Eccli o157 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Kpneumonias 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Lactinol16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Hinfluenzae 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Abnorchiseptica 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Spapertusis16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Spertusis 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Ecspacia 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Emallei 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Epseudomallei 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Ngonorthosae 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Kneming 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Paaruglinoza 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Vcholerae 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170
Yenterocolitica 16S.SEQ	..G..G..G..G..G..	..G..G..G..G..	..C..	..C..	..C..	..C..	..G..G..G..G..	..G..G..	..T..C..	..T..C..	..170

FIG. 2A-2

100221 2662001

Alignment Report of Gram +8- 16S align.MEG, using Clustal method with Weighted residue weight table.

Tuesday, November 27, 2001 4:14 PM

	180	190	200	210	220	230	240	250	260	270	280
Bsubtilis16S.SEQ	..G..GGTGTGAC.GC.T.GTTCAAACATTA..	..GGCT..GGTACCA.TTA.A..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 286
Banthracis16.SEQ	..G...A.TTGT.AC.GC.T.GTTCAA..	..GGCT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 284
Efaecalis 16S.SEQ	..AGTT.T.C.C.T.GC.AA..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.A 275
Llactis 16S.SEQ	..AAA.TTT.A..AC..TTTAA..TTTCAA..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A.A 293
Lmonocyt16S.SEQ	..A..G.TAA..TGT.G.C.T.CC..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.A 304
Saureus16S.SEQ	..G...TA.TTGT.AC.GC.T.GTTCAA..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..A.G 294
Smutans16S.SEQ	..TA..TA..TATATG..T..ATAT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..A.A 293
Spneumon16S.SEQ	..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..A.A 280
Spयोगenes16S.SEQ	..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..A.A 188
Navium16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 243
Mtb16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 284
Ecoli o157 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 286
Kpneumoniae 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 277
Lactinol16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 284
Hinfluenzae 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 286
Bbronchi16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 281
Bparapertus16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 253
Bpertussis 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 279
Bcepacia 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 282
Bmallei 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 255
Bpseudomallei 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 334
Ngonorrhoeae 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 287
Nmening 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 287
Paeruginosa 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 283
Vcholerae 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 284
Yenterocolitica 16S.SEQ	..G..GAGT.G.T..TTC..T..ACATTT..	..GGT..GGTACCA.TTA..	..GA..GGGG.C..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..T..A..	..G.G 286

FIG. 2A-3

T0022T" 26E6200T

Alignment Report of Gram +&- 16S align.MEG, using Clustal method with Weighted residue weight table.
Tuesday, November 27, 2001 4:14 PM

	290	300	310	320	330	340	350	360	370	380	390	400
Baebillus16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Banthracis16.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Efaecalis 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Llactis 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Lmonocy16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Saureus16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Smutans16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Spneumon16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Spvogenesis16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Naviun16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Mt16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Ecoli 0157 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Kpneumonias 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Aactinol16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Hinfluenzae 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Abrenchiseptica 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Bparapertussis16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Bpertussis 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Bcepacia 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Bmallei 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Bpseudomallei 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Bngonorrhoeae 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Bkneising 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Bpaeruginosa 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Bcholerae 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G
Benterocolitica 16S.SEQ	..C.AC	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G	..G..T.G

FIG. 2A-4

Alignment Report of Gram +8- 16S align.MEG, using Clustal method with Weighted residue weight table.
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	410	420	430	440	450	460	470	480	49	500	510	520
Brucellae16S.SEQ	AG...T...	TT...A.C...	CT...G.TGTA...	A...CAA.T.C-GTTCG...	GGCG.TA.C...	G...TAA.CAG.A.GC...	A...	524				
Ranthracis16.SEQ	AG...T...	TT...A.C...	CT...G.TGTA...	A...CAA.TC-T.GT.G...	AGC.G.A.C...	G...TAA.CAG.A.GC...	A...	522				
Elaealis 16S.SEQ	AG...T...	TT...A.C...	CT...G.TGTA...	A...CAA...G.TT...	A.C.GAAC...TC.CC...	G...TAA.CAG.A.GC...	A...	512				
Liactis 16S.SEQ	AG...T...	TT...A.C...	CT...G.TGTA...	A...CAA...G.TT...	A.C.GAAC...TC.CC...	G...TAA.CAG.A.GC...	A...	531				
Laonocyt16S.SEQ	AG...T...	TT...A.C...	CT...G.TGTA...	A...CAA...G.TT...	A.C.GAAC...TC.CC...	G...TAA.CAG.A.GC...	A...	541				
Saureus16S.SEQ	AG...T...	TT...A.C...	CT...G.TGTA...	A...CAA...G.TT...	A.C.GAAC...TC.CC...	G...TAA.CAG.A.GC...	A...	531				
Smutans16S.SEQ	AG...T...	TT...A.C...	CT...G.TGTA...	A...CAA...G.TT...	A.C.GAAC...TC.CC...	G...TAA.CAG.A.GC...	A...	531				
Spneumon16S.SEQ	AG...T...	TT...A.C...	CT...G.TGTA...	A...CAA...G.TT...	A.C.GAAC...TC.CC...	G...TAA.CAG.A.GC...	A...	518				
Spvogues16S.SEQ	AG...T...	TT...A.C...	CT...G.TGTA...	A...CAA...G.TT...	A.C.GAAC...TC.CC...	G...TAA.CAG.A.GC...	A...	426				
Mavium16S.SEQ	GGG...T.C...	...	...	...	...	...	...	...	...	...	...	...
MTb16S.SEQ	GGG...T.C...	...	...	...	...	...	...	...	...	...	...	...
Ecoli o157 16S.SEQ	TAATGAGAGGCGCTTCGGTGTAAATGTAATCTTACCTTCCTGACGTACCC-CCAGAGAGACACCGCTAACCTCGGCCAGCA	523										
Rpneumoniae 16S.SEQ	A...	...	...	...	...	...	...	...	...	...	...	...
Actinoid16S.SEQ	A...	...	...	...	...	...	...	...	...	...	...	...
Hinfluenzae 16S.SEQ	A...	...	...	...	...	...	...	...	...	...	...	...
Bronchiseptica 16S.SEQ	A...	...	...	...	...	...	...	...	...	...	...	...
Spertussis16S.SEQ	GC...T...	...	...	...	...	...	...	...	...	...	...	...
Spertussis 16S.SEQ	GC...T...	...	...	...	...	...	...	...	...	...	...	...
Bcepacia 16S.SEQ	G...	...	...	...	...	...	...	...	...	...	...	...
Bsmalli 16S.SEQ	G...	...	...	...	...	...	...	...	...	...	...	...
Bpseudomallei 16S.SEQ	G...	...	...	...	...	...	...	...	...	...	...	...
Ngonorhoeae 16S.SEQ	C...	...	...	...	...	...	...	...	...	...	...	...
Nmaning 16S.SEQ	C...	...	...	...	...	...	...	...	...	...	...	...
Paeruginosa 16S.SEQ	G...	...	...	...	...	...	...	...	...	...	...	...
Vcholerae 16S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...
Yenterocolitica 16S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...

FIG. 2A-5

100227 1666200T

Alignment Report of Gram +&- 16S align.MEG, using Clustal method with Weighted residue weight table.
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	530	540	550	560	570	580	590	600	610	620	630	640
Bautilis16S.SEQT..TG..T..TG..T..TG..T..TG..T..TG..T..TG..T..TG..T..TG..T..TG..T..TG..T..TG..T..TG..
Banthracis16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Efaecalis16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Llactis16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Lmonocyt16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Saureus16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Smutsans16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Spneumon16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Spyoogenes16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Maviun16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
ME16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Eccli o157 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Kneumonias 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Aactinolis16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Hinfluenzae 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Bbronchiseptica 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Bparapertussis16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Bpartussis 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Bcepacia 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Bmallei 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Bpseudomallei 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Ngonorhoeae 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Nmening 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Paaruginosa 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Vcholerae 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..
Yenterocolitica 16S.SEQ	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..	.....T..TG..

FIG. 2A-6

Alignment Report of Gram +&- 16S align.MEG, using Clustal method with Weighted residue weight table.
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	650	660	670	680	690	700	710	720	730	740	750	760
Bsubtilis16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Banthracis16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Efaecalis 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Llactis 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Leuonocyt16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Saureus16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Smutsans16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Spneumon16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Spyogenes16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Maviu16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Hcb16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Ecoli o157 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Koneumonias 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Lactinol16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Hinfluenzae 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Bronchiseptica 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Bparapertussis16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Bpertussis 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Bcepacia 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Bmalles 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Bpseudomallei 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Ngonorrhoeae 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Nmening 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Paeruginosa 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Vcholerae 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA
Yenterocolitica 16S.SEQ	CGA	CA	AA	GA	CA	AA	GA	CA	AA	GA	CA	AA

FIG. 2A-7

100221" 2666200T

Alignment Report of Gram +&- 16S align.MEG, using Clustal method with Weighted residue weight table.
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	770	780	790	800	810	820	830	840	850	860	870	880
Deubtilia16S.SEQGGGGGGGGGGGG
Banthracis16.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Zfaecalis 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Lilactis 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Imonocyt16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Saureus16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Smuts16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Syneumon16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Spyogenes16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Mavium16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Mdb16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Ecoli 0157 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Xpneumonise 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Actinob16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Hinfluenzae 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Bronchiseptica 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Bparapertussis16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Bparapertussis 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Bcepacia 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Bmal16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Bpseudomallei 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Ngonorrhoeae 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Nmaning 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Paeruginosa 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Vcholerae 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G
Yenterocolitica 16S.SEQ	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G	.....G

FIG. 2A-8

Alignment Report of Gram +&- 16S align.MEG, using Clustal method with Weighted residue weight table.
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[illegible]

FIG. 2A-9

Table 1. Comparison of the results of the proposed method with Weighted residue weight table.

Alignment Report of Gram +&- 16S align.MEG, using Clustal method with weights

FIG. 2A-10

FIG. 2A-10

FEDERAL BUREAU OF INVESTIGATION

Alignment Report of Gram +& 16S align.MEG, using Clustal method with Weighted residue weight table.
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	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220	1230
Baobillis16S.SEQ	AT..A.....	A--T.A.TT..C..T..T.....	G...C...C.....	A.....	C.....T.....	T.....	1232					
Banthracis16.SEQ	AT..A.....	T.A--TAA.TT..C..T..T.....	G...C...C.....	A.....	C.....T.....	T.....	1235					
Bfaecalis16S.SEQ	TG..A.....	T.A--TAA.TT..C..T.OC.....	G...C...C.....	A.....	C.....T.....	T.....	1225					
Llactis16S.SEQ	TG..A.....	T.A--TAA.TT..C..T.C.....	G...C...C.....	A.....	C.....T.....	T.....	1242					
Lmonocyt16S.SEQ	ATT..A.....	A--TAA.TT..C..T.A.T.....	G...C...G.C..C.....	A.....	C.....T.....	T.....	1250					
Saureus16S.SEQ	AG..A.....	T.A--TAA.TT..C..T..TT.....	G...C...C.....	A.....	C.....T.....	TTT.....	1246					
Smutans16S.SEQ	TG..A.....	T.A--TAA.TT..C..T.OC.....	G...A.....C.....	A.....	C.....T.....	T.....	1243					
Spneumon16S.SEQ	TG..A.....	T.A--T.A.TT..C..T.OC.....	G...A.....C.....	A.....	C.....T.....	T.....	1230					
Spvogenes16S.SEQ	TG..A.....	T.A--TAA.TT..C..T.OC.....	G...A.....C.....	A.....	C.....T.....	T.....	1138					
Navium16S.SEQ	..TCA.....	..G..AAT.....G...GTCA.....	G.G.TC..CTC.....	C.....T.....	T.....	A.....	1186					
Mtd16S.SEQ	..TCA.....	..AC..AAT.GT..G...GTCA.....	G.G.TC..CTC.....	C.....T.....	T.....	A.....	1227					
Eccli o157 16S.SEQ	TCCTTTTTCOCAGCG-GTCCGCGCGGAGCTCAAGAGAGCTCCAGTGAATAATGAGGAGTGGGAGTGAAGTCAATGATGGGCTTACAGACAGGCGTACACAGTCTCA						1236					
Xpneumonizae 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1232					
Lactinoc16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1232					
Hinfluenzae 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
BbronchiSeptica 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Bparaptusis16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Bptertusis 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Bcepacia 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Bmallei 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Bpseudomallei 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Bngonorrhoeae 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Nmening 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Paaruginosa 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Vcholerazae 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					
Yenterocolitica 16S.SEQ	.....G.....	..AAGT..T.....	G.....C.....	C.....	GT.....	1234					

FIG. 2A-11

Alignment Report of Gram +&- 16S align.MEG, using Clustal method with Weighted residue weight table.
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FIG. 2A-12

FIG. 2A-13

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[illegible]

Alignment Report of Gram +&- 16S align.MEG, using Clustal method with Weighted residue weight table.
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	1480	1490	1500	1510	1520	1530	1540
Bautilis16S.SEQ	G..CAG...	T.....	-G.....	TC.....	CG.....	C.....	TCCT
Banthracis16.SEQ	AA..COG.....		-G.....	TC.....	CG.....	C.....	T
Efaecalis16S.SEQ	G..CMG..A.T.....		-G.....	TC.....	CG.....	C.....	TCCT
Lliactis16S.SEQ	G..CNA..T.....		-G.....	TC.....	CG.....	C.....	T
Leonocyt16S.SEQ	G...GG...T.....		-G.....	TC.....	CG.....	C.....	TCCT
Saureus16S.SEQ	G...GG...T.....		-G.....	TC.....	CG.....	C.....	T
Smutans16S.SEQ	G...AG...T.....		-G.....	TC.....	CG.....	C.....	TCCT
Spneumon16S.SEQ	G...GGC...T.....	AC.....	-G.....				TCCT
Spvogenes16S.SEQ	G...GGC...T.....	AC.....	-G.....	CC.....	CG.....	C.....	TCCT
Maviu16S.SEQ	G...GGC...T.....	AC.....	-G.....	CC.....	CG.....	C.....	TCCT
Mt16S.SEQ	GTGATTTCATGACTGGGCTGATGCTTACAGCT- AACGGTAGG- -	CGAACCC- -					TCGGGTGGATC-ACCTCTTA
Ecoli 0157 16S.SEQ	Kpneumon16S.SEQ	A.....N.....					T
Aactin16S.SEQ	A.....N.....						T
Hinfluenzae16S.SEQ	A.....N.....						T
Bbrnchiseptica16S.SEQ	A.....N.....						T
Bparapertussis16S.SEQ	AG.....						T
Bpertussis16S.SEQ	AG.....						T
Bcepacia16S.SEQ	AG.....						T
Bmallei16S.SEQ	AG.....						T
Bpseudomallei16S.SEQ	AG.....						T
Ngonorthoeae16S.SEQ	A.C.....						T
Nmening16S.SEQ	A.C.....						T
Paeruginosa16S.SEQ	A.C.....						T
Vcholerazae16S.SEQ	A.C.....						T
Venterocolitica16S.SEQ	A.C.....						T
NH.N.							T

```

Decoration 'Decoration #1': Hide (as '.') residues that match Ecoli 0157 16S.SEQ exactly.

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FIG. 2A-14

100221 16662001

Alignment Report of Gram +8- 23S align.MEG, using Clustal method with Weighted residue weight table.

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	10	20	30	40	50	60	70	80	90	100	110
Baebilla 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Banthracis 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Eiacella 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Llactis 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Lamocytogenes 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Saureus 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Smutans 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Spneumoniae 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Spyrogenes 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Mavium 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Mtuberculosis 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Ecoli 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Kpneumonae 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Hinfluenzae 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bhrochiseptica 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bparapartusis 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bpertussis 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bcepacia 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bmailei 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bpseudomallei 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bgonorrhoeae 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bnemigitidis 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bpeeruginosa 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Bcholerae 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.
Benterocolitica 23S.SEQ	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.	TT.GA..G.CG.

FIG. 2B-1

[illegible]

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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[illegible]

FIG. 2B-2

100221" 4666200T

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.

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	230	240	250	260	270	280
Bautilis 23S.SEQ	T.C.....TG	CGA.C-AC..GA-TCA	GGCCA--AACCA--	AG..TTGCT.T..GGTTGTAGGAC	---C..T..AC	313
Banthracis 23S.SEQ	T.C.....T.TG	..AC..AACATA	GGCCA--AACCA--	AG..TTGCT.T..GGTTGTAGGAC	---T..TA.AC	315
Efacaelis 23S.SEQ	TTT.....TG	..AC..GA-AGA	GGCCA--AACCA--	TTGCTTT..GGTTGTAGGAC	---TC..A.A.	313
Lactis 23S.SEQ	ATC.....T.GTA	..C.AA-GAA	GGCCA--AACCA--	A..TTGCTT.T..GGTTGTAGGAC	---C..TA.AC	305
Lmonocytogenes 23S.SEQ	ATC.....T.GTA	..AC..AA-AGA	GGCCA--AACCA--	A..TTGCTT.T..GGTTGTAGGAC	---C..TA.AC	314
Saureus 23S.SEQ	TTT.....TT	..AC..GA-AGA	GGCCA--AACCA--	CA..TTGCTTT..GGTTGTAGGAC	---C..TA.AC	315
Smutans 23S.SEQ	A.C.....G..T	..AC..CA-GAA	GGCCA--AACCA--	GA.T.TTT.C.CT..GGTTGTAGGAC	---C..TA.AC	301
Spneumonias 23S.SEQ	A.C.....G..TT	..AC..CA-GAA	GGCCA--AACCA--	TTT.CTC.TC..GGTTGTAGGAC	---C..TA.AC	302
Spvogenes 23S.SEQ	..C.....G..TT	..AC..CA-GAA	GGCCA--AACCA--	TTT.CTC.TC..GGTTGTAGGAC	---C..TA.AC	302
Mavium 23S.SEQ	T.T.....GT	..C..C..AACAGCTAACCGCATGATGACACAC..GGT	..G..TTGT.T.TGC..GGTTGTAGGAC	---G..TTGT.T.TGC..GGTTGTAGGAC	---G..TTGT.T.TGC..GGTTGTAGGAC	356
Mtuberculosis 23S.SEQ	T.T.....G.A.	..C..C..AACAGCTAACCGCATGATGACACAC..GGT	..G..TTGT.T.TGC..GGTTGTAGGAC	---G..TTGT.T.TGC..GGTTGTAGGAC	---G..TTGT.T.TGC..GGTTGTAGGAC	349
Ecoli 23S.SEQ	CGAGATTCCTCCCTAGTACGCGGCGGAA-CGGG	..C.....T	..C.....T	..C.....T	..C.....T	286
Kpneumonias 23S.SEQ	..T.GT	..A.C	..A.C	..AGT.AGTGA	..G..A.A.	290
Hinfluenzae 23S.SEQ	..GAA	..T	..ATC	..TTT..C	..T..T..CA	279
Bbrochiisepctica 23S.SEQ	..GAA	..T	..ATC	..TTT..C	..T..T..CA	278
Bparapertussis 23S.SEQ	..GAA	..T	..ATC	..TTT..C	..T..T..CA	278
Bpertussis 23S.SEQ	..GAA	..T	..ATC	..TTT..C	..T..T..CA	281
Bcapacia 23S.SEQ	..AA	..T	..AT	..TT..CA.TC	..T..T..CA	281
Bmallei 23S.SEQ	..AA	..T	..AT	..TT..CA.TC	..T..T..CA	281
Bpseudomallei 23S.SEQ	..AA	..T	..AT	..TT..CA.TC	..T..T..CA	281
Ngonorrhoeae 23S.SEQ	..G.A.	..T	..C	..TT..CA.TC	..T..T..CA	284
Neminigitidis 23S.SEQ	..G.A.	..T	..C	..TT..CA.TC	..T..T..CA	283
Paaruginosa 23S.SEQ	..TT	..T	..C	..TT..CA.TC	..T..T..CA	282
Vcholerae 23S.SEQ	..GOT	..T	..CT	..TT..AG	..C..G..	281
Yenterocolitica 23S.SEQ	..GOT	..T	..CT	..TT..AG	..C..G..	286

FIG. 2B-3

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FIG. 2B-4

FIG. 2B-4

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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FIG. 2B-5

FOO22T" 26E6200T

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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	500	510	520	530	540	550	560	570	580	590	600
Bubtilis 23S.SEQG.....G.....G.....G.....G.....G.....G.....G.....G.....G.....G.....
Banthracis 23S.SEQG.....G.....G.....G.....G.....G.....G.....G.....G.....G.....G.....
Bfaccalis 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Llactis 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Imonocytogenes 23S.SEQ	.....C.....	.....C.....	.....C.....	.....C.....	.....C.....	.....C.....	.....C.....	.....C.....	.....C.....	.....C.....	.....C.....
Saureus 23S.SEQ	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....
Smutans 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Spneumonias 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Spvogenes 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Mavium 23S.SEQ	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....
Mtuberculosis 23S.SEQ	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....
Ecoli 23S.SEQ	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....	.....G.....
Kpneumonias 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Hinfluenzae 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Bbrochiseptica 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Bpapakartussis 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Bpirtussis 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Bcepacia 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Bmallei 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Bpseudomallei 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Bgonorrhoeae 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Neminigitidis 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Paeruginosa 23S.SEQ	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....	.....T.....
Vcholerae 23S.SEQT.....T.....T.....T.....T.....T.....T.....T.....T.....T.....T.....
Yenterocolitica 23S.SEQT.....T.....T.....T.....T.....T.....T.....T.....T.....T.....T.....

FIG. 2B-6

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3.2.3. Comparison of the Clustal method with Weighted residue weight table.

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	10	20	30	40	50	60	70	80	90
subtilis 23S.SEQ	G.A.	G.T.C.	C.C.	G.	TA	CAT	G	AGGT	TCG
Banthracis 23S.SEQ	G.T.	G.	C.	C.	G.	G.	TA	T	ACGT
gfacialis 23S.SEQ	GT	G.AC	C.C.	G.	G.	TA	AAT	G	ATGTA
Llactis 23S.SEQ	GT	G.AC	T.	C.	G.	TA	ACT	T	A.G
Laonocytogenes 23S.SEQ	G.G.	A.A.C.	T.C.	G.	G.	TA	CAT	A	AA
S aureus 23S.SEQ	G.A.T.A.T.	T.	C.	G.	G.	TA	T	ATTT	TCG
Smutans 23S.SEQ	GT	G.AC	T.	T.	A.	G.	TA	G	TA
Spneumoniae 23S.SEQ	GT	G.AC	T.	T.	A.	G.	TA	T	AT
Spvogenes 23S.SEQ	GT	G.AC	T.	T.	A.	G.	TA	T	AT
Mavium 23S.SEQ	C	TCG	T	C.	C.	G.	G.	TA	G
Mtuberculosis 23S.SEQ	C	TCG	T	C.	C.	G.	G.	TA	G
Ecoli 23S.SEQ	GT	TA	CG	AT	TCG	CG	AT	TCG	CG
Kpneumoniae 23S.SEQ	T	T	T	T	T	T	T	T	T
Hinfluenzae 23S.SEQ	A	G	TC	A	N	G	CG	TA	C
Bbrochisepctica 23S.SEQ	A	G	TC	A	N	G	CG	TA	C
Bparacurtusis 23S.SEQ	A	G	TC	A	N	G	CG	TA	C
Bpertussis 23S.SEQ	T	C	G	T	C	G	G	TA	C
Bcepacia 23S.SEQ	T	C	G	T	C	G	G	TA	C
Bmallei 23S.SEQ	T	C	G	T	C	G	G	TA	C
Bpseudomallei 23S.SEQ	T	C	G	T	C	G	G	TA	C
Bgonorrhoeae 23S.SEQ	T	C	G	T	C	G	G	TA	C
Bnemigititidis 23S.SEQ	T	C	G	T	C	G	G	TA	C
Bparuginoza 23S.SEQ	T	C	G	T	C	G	G	TA	C
Bcholerae 23S.SEQ	T	C	G	T	C	G	G	TA	C
Benterocolitica 23S.SEQ	T	C	G	T	C	G	G	TA	C

FIG. 2B-7

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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[illegible]

FIG. 2B-8

FOO22T" 26E6200T

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.

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	820	830	840	850	860	870	880	890	900	910	920	930
Esubtilis 23S.SEQ	TAAC	AA-GT-A-G-GTCTT
Banthracis 23S.SEQ	TAAC	.....	.....	TAAT-TGTAAG-GTCTT	.....	.....	.....	.....	.....	.....	.....	.....
Efaecalis 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Llactis 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lnococytogenes 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saureus 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Smutans 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spneumonise 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spyoogenes 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mavium 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mtuberculosis 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ec coli 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kneumonise 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hinfluenzae 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bbrochiseptica 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bparapertusis 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bpertussis 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bcopacia 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bmalei 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bpseudomallei 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ngonorrhoeae 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Neminigitidis 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paeruginosa 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vcholerazae 23S.SEQ	TAAC	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yenterocolitica 23S.SEQ	TAAC

FIG. 2B-9

using Clustal method with Weighted residue weight table.

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[illegible]

FIG. 2B-10

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Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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	1060	1070	1080	1090	1100	1110	1120	1130	1140	1150	1160
Baebtilis 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1211
Banthracis 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1213
Efaecalis 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1206
Llactis 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1201
Leonocytogenes 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1213
Saureus 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1211
Smutans 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1200
Spneumonlae 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1202
Spnyogenes 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1202
Mavium 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1279
Mtuberculosis 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1298
Ecoli 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1167
Rpneumonlae 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1165
Hinfluenzae 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1173
Bbrochiseptica 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1153
Bparapertussis 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1154
Bpertussis 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1154
Bcepacia 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1160
Bmailed 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1162
Bpseudomallei 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1162
Bgonorrhoeae 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1169
Bneminigitidis 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1168
Bpaeruginosa 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1156
Bcholerae 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1152
Benterocolitica 23S.SEQ	A.....	C.....	GT.....	GT.....	C.....	C.....	C.....	C.....	A.....	A.....	ACTG 1166

FIG. 2B-11

a correlation MEG using Clustal method with Weighted residue weight table.

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FIG. 2B-12

FIG. 2B-12

using Clustal method with Weighted residue weight table.

	1290	1300	1310	1320	1330	1340	1350	1360	1370	1380	1390	1400	1410	1420	1430	1440	1450	1460	1470	1480	1490	1500	1510	1520	1530	1540	1550	1560	1570	1580	1590	1600	1610	1620	1630	1640	1650	1660	1670	1680	1690	1700	1710	1720	1730	1740	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130	2140	2150	2160	2170	2180	2190	2200	2210	2220	2230	2240	2250	2260	2270	2280	2290	2300	2310	2320	2330	2340	2350	2360	2370	2380	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	2510	2520	2530	2540	2550	2560	2570	2580	2590	2600	2610	2620	2630	2640	2650	2660	2670	2680	2690	2700	2710	2720	2730	2740	2750	2760	2770	2780	2790	2800	2810	2820	2830	2840	2850	2860	2870	2880	2890	2900	2910	2920	2930	2940	2950	2960	2970	2980	2990	3000	3010	3020	3030	3040	3050	3060	3070	3080	3090	3100	3110	3120	3130	3140	3150	3160	3170	3180	3190	3200	3210	3220	3230	3240	3250	3260	3270	3280	3290	3300	3310	3320	3330	3340	3350	3360	3370	3380	3390	3400	3410	3420	3430	3440	3450	3460	3470	3480	3490	3500	3510	3520	3530	3540	3550	3560	3570	3580	3590	3600	3610	3620	3630	3640	3650	3660	3670	3680	3690	3700	3710	3720	3730	3740	3750	3760	3770	3780	3790	3800	3810	3820	3830	3840	3850	3860	3870	3880	3890	3900	3910	3920	3930	3940	3950	3960	3970	3980	3990	4000	4010	4020	4030	4040	4050	4060	4070	4080	4090	4100	4110	4120	4130	4140	4150	4160	4170	4180	4190	4200	4210	4220	4230	4240	4250	4260	4270	4280	4290	4300	4310	4320	4330	4340	4350	4360	4370	4380	4390	4400	4410	4420	4430	4440	4450	4460	4470	4480	4490	4500	4510	4520	4530	4540	4550	4560	4570	4580	4590	4600	4610	4620	4630	4640	4650	4660	4670	4680	4690	4700	4710	4720	4730	4740	4750	4760	4770	4780	4790	4800	4810	4820	4830	4840	4850	4860	4870	4880	4890	4900	4910	4920	4930	4940	4950	4960	4970	4980	4990	5000	5010	5020	5030	5040	5050	5060	5070	5080	5090	5100	5110	5120	5130	5140	5150	5160	5170	5180	5190	5200	5210	5220	5230	5240	5250	5260	5270	5280	5290	5300	5310	5320	5330	5340	5350	5360	5370	5380	5390	5400	5410	5420	5430	5440	5450	5460	5470	5480	5490	5500	5510	5520	5530	5540	5550	5560	5570	5580	5590	5600	5610	5620	5630	5640	5650	5660	5670	5680	5690	5700	5710	5720	5730	5740	5750	5760	5770	5780	5790	5800	5810	5
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Alignment Report of Gram +8- 23S align.MEG, using Clustal method with Weighted residue weight table.

Tuesday, November 27, 2001 4:14 PM

	1410	420	1430	1440	1450	1460	1470	1480
Sbaubutilla 23S.SEQ	ACC. CC. CACCATTY-GA. A. -T.	T.	C. G. A. A. G. G. AAG.		C. GT.	A. A. OC. CC. AGCA. -TA. GC	1525	
Banthracis 23S.SEQ	ACC. C. TA. COTTGAG- A. -T. A.	C.	A. GAGAG.		T.	ATT.	1531	
Efacellis 23S.SEQ	A. T.	T.	A. GAGATG.		ATT.	AA. G. AT. CC. AGCA. -GA. TC	1522	
Lliactis 23S.SEQ	A. A.	T.	C. T.	A. AGATG.	A.	GTIA- A. G. AT. T. G. CT. AGCA. -GA. G.	1507	
Isomonocyogenes 23S.SEQ	A. C. A. TATTY-ANC. -T.	T.	AC.	A. G. G. AAT.	CA.	A. T.	1524	
Saurus 23S.SEQ	ACC. A. A. A. COTTYAT. -T.	T.	C. T. A. G. G. AG.		T.	ATT.	1504	
Smutans 23S.SEQ	A. A.	A.	C. C. AC. A. AG.		T.	ATT.	1508	
Spneumoniae 23S.SEQ	A. A.	T. A.	C. T. AC. AAG.		ATT.	AA. AG. AC. CC. AGCA. -GA. G.	1510	
Spogyes 23S.SEQ	A. A.	T. A.	C. T. AC. A. A. A.		ATT.	AA. AG. AC. CC. AGCA. -GA. G.	1510	
Mavium 23S.SEQ	C. TGA. GGGGTCCTGAT. ATCA. C. T. TAACACACCA. ACC. A. CACATY. COTTGAG.					TT.	1636	
Metubercularis 23S.SEQ	C. TGTG. GGGGCCCCGTA. ATCA. C. T. TAACACACCA. ACC. A. CCA. CACT. COTTGAG.					TT.	1656	
Ecoli 23S.SEQ	TGGTGTACT.	GGCA- AGGGGAG.	GGAGAGCTATGTATGCC.	GGGGG.	AGG- GTTGTGCGGTTTATGCGTGT-AGGCT	1480		
Kpneumoniae 23S.SEQ	....	....	A. ....	....	....	....	1478	
Hnfluenzae 23S.SEQ	....	....	T. T. G. AT. G. -CACT.	....	....	....	1485	
Bbrochiaeptica 23S.SEQ	....	....	TGCG. GA. G. C. AT. A.	....	....	....	1464	
Bparaptusis 23S.SEQ	....	....	TGCG. GA. G. C. AT. A.	....	....	....	1465	
Bpertussis 23S.SEQ	....	....	TGCG. GA. G. C. AT. A.	....	....	....	1465	
Bcepacia 23S.SEQ	....	....	TGCG. GA. G. C. AT. A.	....	....	....	1489	
Bmallei 23S.SEQ	....	....	TGCG. GA. G. C. AT. A.	....	....	....	1472	
Bpseudomallei 23S.SEQ	....	....	TGCG. GA. G. C. AT. A.	....	....	....	1472	
Ngonorrhoeae 23S.SEQ	....	....	T. T. G. A. CT.	....	....	....	1479	
Neminigitidis 23S.SEQ	....	....	T. T. G. A. CT.	....	....	....	1478	
Paeruginosa 23S.SEQ	....	....	T. T. G. A. CT.	....	....	....	1468	
Vcholerac 23S.SEQ	....	....	T. T. G. A. CT.	....	....	....	1463	
Yenterocolitica 23S.SEQ	....	....	T. T. G. A. CT.	....	....	....	1480	

FIG. 2B-14

100221 26E6200T

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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	1490	1500	1510	1520	1530	
Bubtillis 23S.SEQ	T.GGAAT	TTTC	CC.A	G.C	CT	G...CG.A...TATA... 1585
Banthracis 23S.SEQ	T.A.AAGT	CTTA	TOG.G	CT	CT	GG...AGTCCTTTAT...G 1592
Efaecalis 23S.SEQ	TTGAG.AG.TT	G.T.TT.C	TCT.T	ACA.TT	CT	C.GG...CG.AAT-ATA... 1584
Llactis 23S.SEQ	TGAGATGT.T	G.A.TTC	TCT.T	CAT	CT	GG.A...AC-TAC... 1568
Imonocytogenes 23S.SEQ	T.AG.AAT	CTTC	TC.CG	CA	CT	GG.A.G.A...TTAA... 1591
Saureus 23S.SEQ	AGGACTG.T	G.T.T.GT	TTTG	GGCA.CA	CT	GG...AGAC-TTGT... 1586
Smitans 23S.SEQ	TGAA.TG.T	G.T.T.T	TTTAT	CAT	CT	GG...CG.AG-TTAA... 1565
Spneumonias 23S.SEQ	TAGATG.T	G.T.T.TC	TTTAT	CAT	CT	GG...CG.A...TTTA... 1571
Spvogenes 23S.SEQ	ATGCGGTG.C	GG.A.CCGTACCATC	GTGGT.TA	G...AA.CCGTACCATC	GTGGT.TA	CTCTACTAATCTGAGAGGTATCTATAGCCGTT.A 1754
Mavium 23S.SEQ	ATGCGGTG.C	GG.A.CCGTACCATC	GTGGT.TA	G...AA.CCGTACCATC	GTGGT.TA	CTCTACTAATCTGAGAGGTATCTATAGCCGTT.A 1776
Mtuberculosis 23S.SEQ	ATGCGGTG.C	GG.A.CCGTACCATC	GTGGT.TA	G...AA.CCGTACCATC	GTGGT.TA	CTCTACTAATCTGAGAGGTATCTATAGCCGTT.A 1776
Ecoli 23S.SEQ	GTCTTTCAGGCA	ATTCGGAA	ATC	AGGCTGAGCGTG	ATC	ATGACGAGGCACTAC-G... 1538
Kpneumonias 23S.SEQ	...G	T	T	T	T	... 1536
Hinfluenzae 23S.SEQ	...AAG.TT	C-T	TOC.T	CA.A	AGA	...T... 1545
Bbrochiseptica 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1522
Bparapertussis 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1523
Bpertussis 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1526
Bcepacia 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1529
Bmallei 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1529
Bpseudomallei 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1529
Bgonorrhoeae 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1529
Bnemigitidis 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1529
Bpaeruginosa 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1529
Bcholerae 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1529
Benterocolitica 23S.SEQ	...GCG	GA	G-AT	ANG.T	T	CG.GC.AGTC... 1541

FIG. 2B-15

1002227 2666007

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
Tuesday, November 27, 2001 4:14 PM

	1540	1550	1560	1570	1580	1590	1600	1610	1620	1630	1640	1650	
Baebtilis 23S.SEQ	AGC...	TTC.TG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1701
Banthracis 23S.SEQ	AGC...	TTC.TG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1708
Efaecalis 23S.SEQ	AGC...	TTC.TG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1686
Llactis 23S.SEQ	TGC...	CTCT.TG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1707
Laonocytogenes 23S.SEQ	AGC...	TTC.TG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1702
Saureus 23S.SEQ	CT.CG...	TCCTTG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1684
Smutans 23S.SEQ	AGC...	TTC.TG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1688
Spneumonias 23S.SEQ	AGC...	TTC.TG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1690
Spvogenes 23S.SEQ	AGC...	TTC.TG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1871
Mavium 23S.SEQ	GC...	TTCTTG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1893
Mtuberculosi 23S.SEQ	GC...	TTCTTG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1657
Ecoli 23S.SEQ	GC...	TTCTTG..T..ACA..G..A..	...	...	...	...	...	...	...	...	...	...	1655
Kpneumonias 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1664
Hinfluenzae 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1639
Bhrochiseptica 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1640
Bparaptusis 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1640
Bpartusis 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1643
Bcepacia 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1646
Bmailei 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1646
Bpseudomallei 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1658
Ngmorrhoeas 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1657
Neminigitidis 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1648
Paeruginosa 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1642
Vcholerae 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1660
Yenterocolitica 23S.SEQ	...	...	...	...	...	...	...	...	...	...	...	...	1660

FIG. 2B-16

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
Tuesday, November 27, 2001 4:14 PM

[illegible]

FIG. 2B-17

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
Tuesday, November 27, 2001 4:14 PM

Tuesday, November 27, 2001 4:14 PM																
	1780	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890				
Baebtrilis 23S.SEQ	..GC	..GT	..C	..G	..GC	..T	..GC	..A	..G	..GC	..T	..C	..G	..GGA	..T	1921
Banthracis 23S.SEQ	..GC	..T	..C	..G	..GC	..T	..GC	..A	..G	..G	..A	..T	..C	..G	..CT	1917
Efacellis 23S.SEQ	..C	..GT	..C	..AT	..T	..AT	..A	..G	..GC	..T	..G	..AT	..T	..C	..TTCG	1907
Llactis 23S.SEQ	..C	..T	..C	..T	..AC	..C	..GT	..T	..G	..G	..GA	..T	..C	..T	..C	1897
Laonocytogenes 23S.SEQ	..GC	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1927
Saureus 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1921
Spneumonae 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1894
Spvogenes 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1896
Navium 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1897
Spvogenes 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	2110
Navium 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	2132
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1893
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1893
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1899
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1862
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1863
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1863
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1868
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1871
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1871
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1882
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1881
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1881
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1876
Eccli 23S.SEQ	..C	..GT	..C	..T	..AC	..T	..GT	..T	..G	..GC	..T	..C	..TTCG	..C	..G	1896

FIG. 2B-18

100221 2662001

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010		
Bautilis 23S.SEQ	A.						C.	A.	C.C.	CTGGCC.	A.GA.	G.	2041	
Banthracis 23S.SEQ	A.						C.	A.	A.T.	C.	TTGGCCA.	A.A.	G.	2037
Efacaelis 23S.SEQ	A.						C.	A.	A.	C.	TTGGCCA.	A.GA.	G.	2027
Llactis 23S.SEQ	A.						C.	A.	A.	A.	TTGGCCA.	A.GA.	G.	2017
Lemonocytogenes 23S.SEQ	A.						C.	A.	A.	C.C.	CTGGCCA.	A.GA.	G.	2047
Saureus 23S.SEQ	A.						C.	A.	A.	C.	TTGGCCA.	A.GA.	G.	2041
Smutans 23S.SEQ	A.						C.	A.	A.	A.	TTGGCCA.	A.GA.	G.	2014
Spneumoniae 23S.SEQ	A.						C.	A.	A.	A.	TTGGCCA.	A.GA.	G.	2016
Spvogenes 23S.SEQ	A.						C.	A.	A.	A.	TTGGCCA.	A.GA.	G.	2017
Mtuberculosis 23S.SEQ	A.						C.	A.	A.	A.	TTGGCCA.	A.GA.	G.	2030
Navilum 23S.SEQ	A.						C.	ATT.	CNA.	A.	AT.	G.C.	2252	
Mtuberculosis 23S.SEQ	A.						C.	ATT.	TCNA.	A.	AT.	G.C.	2252	
Ecoli 23S.SEQ	CGGTAAACGGGGCGGTAACTATTAAGCGTCTTAAGCGGTAACTGTCGGGTAAATGATGCGCAGCGTCTGTCGCGCGAGACTGATGCA												2013	
Kpneumoniae 23S.SEQ								A.					2019	
Hinfluenzae 23S.SEQ	A.						C.		C.	CA.	T.T.	C.	1982	
Ebrochiseptica 23S.SEQ							C.		C.	CA.	T.T.	C.	1983	
Bparapertussis 23S.SEQ							C.		C.	CA.	T.T.	C.	1983	
Bpertussis 23S.SEQ							C.		C.	CA.	T.	C.	1988	
Bcepacia 23S.SEQ							C.		C.	CA.	T.	C.	1991	
Bnallei 23S.SEQ							C.		C.	CA.	T.	C.	1991	
Bpseudomallei 23S.SEQ							C.		C.	CA.	T.	C.	2002	
Xgonorrhoeae 23S.SEQ							C.		C.	CA.	T.	C.	2001	
Neminigitidis 23S.SEQ	A.						C.		C.	CA.	T.T.	C.	2001	
Paeruginosa 23S.SEQ							C.		C.	GGC.			1996	
Vcholerae 23S.SEQ							C.		C.				1916	
Yenterocolitica 23S.SEQ							C.		C.				1916	

FIG. 2B-19

100221 46E6200T

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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	2020	2030	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
Beutellia 23S.SEQ	..AT.G.AC	..GT	..A.G	..G.G	..G.G	..G.G	..G.C	..T.T	..TG	..GTA.AGCT	..AC	..A..C..G.. 2161
Banthracis 23S.SEQ	..AT.G.AC	..GT	..A.G	..G.G	..G.G	..G.G	..G.C	..T.T	..TG	..GTA.AGCT	..AC	..C..C.. 2157
Efacaalis 23S.SEQ	..TT.G.AC	..GT	..A.G	..G.G	..G.G	..G.G	..G.C	..T.T	..TG	..GTA.AGCT	..AC	..A..C.GA.. 2147
Llactis 23S.SEQ	..TT.G.AC	..GT	..A.G	..G.G	..G.G	..G.G	..G.C	..T.T	..TG	..GTA.AGCT	..AC	..A..C.AA.. 2137
Lmonocytogenes 23S.SEQ	..AT.G.AC	..GT	..A.G	..G.G	..G.G	..G.G	..G.C	..T.T	..TG	..GTA.AGCT	..AC	..A..C.GA.. 2167
Saureus 23S.SEQ	..AT.G.AC	..GT	..A.G	..G.G	..G.G	..G.G	..G.C	..T.T	..TG	..GTA.AGCT	..AC	..A..C.. 2161
Smutans 23S.SEQ	..TT.G.AC	..GT	..A.G	..G.G	..G.G	..G.G	..G.C	..T.T	..TG	..GTA.AGCT	..AC	..A..C.AG.. 2134
Spneumonies 23S.SEQ	..TT.G.AC	..GT	..A.G	..G.G	..G.G	..G.G	..G.C	..T.T	..TG	..GTA.AGCT	..AC	..A..C.AA.. 2136
Spnogenes 23S.SEQ	..TT.G.AC	..GT	..A.G	..G.G	..G.G	..G.G	..G.C	..T.T	..TG	..GTA.AGCT	..AC	..A..C.AA.. 2137
Mavium 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Mtuberculosis 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Ecoli 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Kneumonies 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Hinfluenzae 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Bbrochiseptica 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Bparapertussis 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Bpartussis 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Bcapacia 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Bmallei 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Bpseudomallei 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Ngonorrhoeae 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Nemiginicidus 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Paeruginosa 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Vcholerae 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371
Yenterocolitica 23S.SEQ	..C..ACGA..A	..TGGT	..G	..G	..G	..G	..G	..G	..G	..G	..G	..A..G.. 2371

FIG. 2B-20

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[illegible]

FIG. 2B-21

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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	2260	2270	2280	2290	2300	2310	2320	2330	2340	2350	2360	2370
Brubtilis 23S.SEQG.....	AG.....	C..C.A.....	CC..C.GAA.....	T..A.....	TTC.CAG.....	T..A.....	C.....	CG.....	ACCT..ANGT.....	2398
Bantracis 23S.SEQ	.....G.....	T.....	C..C.A.....	CC..C.GAA.....	T..A.....	TTC.TAG.....	T..A.....	.....	GG.....	ACCT..ANGT.....	.....	2394
Efacaelis 23S.SEQ	.....G.....	AG.....	C..C.A.....	CC..C.GAA.....	T..A.....	TTC.CAG.....	T..A.....	G.....	GG.....	ACCT..ANGT.....	.....	2384
Liactis 23S.SEQ	.....G.....	.....	C..C.A.....	C.GAT.....	T..A.....	ATC.TAG.....	T..A.....	T.A.....	.....	A.CT..AA.T.....	.....	2373
Laemocyogenes 23S.SEQ	.....G.....	.....	C..C.A.....	CC..C.GAA.....	AT..A.....	TTC.CAG.....	T..A.....	C.....	GG.....	AC.....ANGT.....	.....	2404
Saureus 23S.SEQ	.....G.....	AG.....	C..C.A.....	CC..C.GAA.....	T..A.....	TTC.TAG.....	T..A.....	.....	GG.....	ACCT..ANGT.....	.....	2398
Smutans 23S.SEQ	.....G.....	.....	C..C.A.....	CC..C.GAA.....	T..A.....	TTC.CAG.....	T..A.....	T.....	GG.....	ACA..ANGT.....	.....	2371
Spneumoniae 23S.SEQ	.....G.....	AG.....	C..C.A.....	CC..C.GAA.....	T..A.....	ATC.CAG.....	T..A.....	T.....	GG.....	A.CT..AA.T.....	.....	2373
Spyrogenes 23S.SEQ	.....G.....	.....	C..C.A.....	CC..C.GAT.....	T..A.....	ATC.CAG.....	T..A.....	T.....	GG.....	A.CT..AA.T.....	.....	2374
Mayium 23S.SEQ	.....TG.....	.....	C..C.A.....	CC..C.A.....	A..CA.....	T..CG.....	T..GT.....	C.....	GG.....	AC.T..ANGT.A.....	.....	2586
Mtubercularis 23S.SEQ	.....TG.....	.....	C..C.A.....	CC..C.A.....	A..CA.....	T..CG.....	T..AT.....	C.....	GG.....	AC.T..ANGT.A.....	.....	2609
Ecoli 23S.SEQ	GGCGGTCGCTGCTTAAGGTAACCGGACGAGGTTGGCTAATCTCGTCGACATCAGGAGGTATGTGATATGCGATACGAGGAGGAGGAGG	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2370
Kpneumonae 23S.SEQ	.....C.....	C.....	C.....	.....	.....	.....	.....	.....	.....	.....	.....	2376
Hinfluenzae 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2337
Bbrochiseptica 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2339
Bparapertussis 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2339
Bpartussis 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2345
Bcespacia 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2348
Bmailei 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2348
Bpseudomallei 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2359
Bgonorrhoeae 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2358
Bneanigitidis 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2358
Bperuginosa 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2353
Bcholerae 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2373
Benterocolitica 23S.SEQ	.....C.....	C.....	TT.....	AC.....	GGTAC.....	A..GT..CT.A.....	.....	.....	GT.....	T..AC..A..T..A.....	.....	2373

FIG. 2B-22

FOOT 466200T

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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	2380	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480
Bsubtilis 23S.SEQ	GA.....TC..G.T.....C.C.....C.C.....C.C.....C.C.....C.C.....C.C.....C.C.....C.C.....C.C.....G.AG. 2518
Banthracis 23S.SEQ	GA.....TC..G.T.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....G.AG. 2513
Efaecalis 23S.SEQ	GA.....TC..G.T.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....G.AG. 2502
Llactis 23S.SEQ	.AG.....CT...A.T.....	.....A.C.C.....	.....A.C.C.....	.....A.C.C.....	.....A.C.C.....	.....A.C.C.....	.....A.C.C.....	.....A.C.C.....	.....A.C.C.....	.....A.C.C.....	.....G.AG. 2492
Imonocytogenes 23S.SEQ	GA.....TC..G.T.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....G.AG. 2523
Saureus 23S.SEQ	GT.....AC..A.T.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....G.AG. 2517
Smutans 23S.SEQ	GA.....TC..G.T.....	.....A.C.T.....	.....A.C.T.....	.....A.C.T.....	.....A.C.T.....	.....A.C.T.....	.....A.C.T.....	.....A.C.T.....	.....A.C.T.....	.....A.C.T.....	.....G.AG. 2490
Spneumoniae 23S.SEQ	GA.....TC..G.T.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....C.C.....	.....G.AG. 2492
Spyogenes 23S.SEQ	GA.....TC..G.T.....	.....A.C.....	.....A.C.....	.....A.C.....	.....A.C.....	.....A.C.....	.....A.C.....	.....A.C.....	.....A.C.....	.....A.C.....	.....G.AG. 2493
Maviun 23S.SEQ	GA.....TC..GAC.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....G.AG. 2705
Mtuberculosis 23S.SEQ	GA.....TC..GAT.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....CAACC.C.G.....	.....G.AG. 2728
Ecoli 23S.SEQ	TGCGAAGCGATCAGTATGATCCGCTCAAGGATAAAGGTACTCAGCGGGATACAGGCTGATACCGCCAGAG-TTCATATGAGCGGGG 2489	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kpneumonae 23S.SEQ	.....T.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2489
Hinfluenzae 23S.SEQ	.....G.A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2495
Bbrochiseptica 23S.SEQ	.....G.A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2451
Bparapertussis 23S.SEQ	.....G.A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2453
Bpertussis 23S.SEQ	.....G.A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2464
Bcepacia 23S.SEQ	.....T.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2467
Bmallei 23S.SEQ	.....T.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2467
Bpseudomallei 23S.SEQ	.....T.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2467
Bgonorrhoeae 23S.SEQ	.....A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....A. 2478
Bnemigitidis 23S.SEQ	.....A.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....A. 2477
Bpaeruginosa 23S.SEQ	.....T.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2477
Bcholerae 23S.SEQ	.....T.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....2472
Benterocolitica 23S.SEQT.....2492

FIG. 2B-23

Alignment Report of Gram +&- 23S align
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[illegible]

FIG. 2B-24

100221" 26E6200T

Alignment Report of Gram +&- 23S align.MEG, using Clustal method with Weighted residue weight table.
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	2610	2620	2630	40	2650	2660	2670	2680	2690	2700	2710	2720	2730	2740	2750	2760	2770	2780	2790	2800	2810	2820	2830	2840	2850	2860	2870	2880	2890	2900	2910	2920	2930	2940	2950	2960	2970	2980	2990	3000	3010	3020	3030	3040	3050	3060	3070	3080	3090	3100	3110	3120	3130	3140	3150	3160	3170	3180	3190	3200	3210	3220	3230	3240	3250	3260	3270	3280	3290	3300	3310	3320	3330	3340	3350	3360	3370	3380	3390	3400	3410	3420	3430	3440	3450	3460	3470	3480	3490	3500	3510	3520	3530	3540	3550	3560	3570	3580	3590	3600	3610	3620	3630	3640	3650	3660	3670	3680	3690	3700	3710	3720	3730	3740	3750	3760	3770	3780	3790	3800	3810	3820	3830	3840	3850	3860	3870	3880	3890	3900	3910	3920	3930	3940	3950	3960	3970	3980	3990	4000	4010	4020	4030	4040	4050	4060	4070	4080	4090	4100	4110	4120	4130	4140	4150	4160	4170	4180	4190	4200	4210	4220	4230	4240	4250	4260	4270	4280	4290	4300	4310	4320	4330	4340	4350	4360	4370	4380	4390	4400	4410	4420	4430	4440	4450	4460	4470	4480	4490	4500	4510	4520	4530	4540	4550	4560	4570	4580	4590	4600	4610	4620	4630	4640	4650	4660	4670	4680	4690	4700	4710	4720	4730	4740	4750	4760	4770	4780	4790	4800	4810	4820	4830	4840	4850	4860	4870	4880	4890	4900	4910	4920	4930	4940	4950	4960	4970	4980	4990	5000	5010	5020	5030	5040	5050	5060	5070	5080	5090	5100	5110	5120	5130	5140	5150	5160	5170	5180	5190	5200	5210	5220	5230	5240	5250	5260	5270	5280	5290	5300	5310	5320	5330	5340	5350	5360	5370	5380	5390	5400	5410	5420	5430	5440	5450	5460	5470	5480	5490	5500	5510	5520	5530	5540	5550	5560	5570	5580	5590	5600	5610	5620	5630	5640	5650	5660	5670	5680	5690	5700	5710	5720	5730	5740	5750	5760	5770	5780	5790	5800	5810	5820	5830	5840	5850	5860	5870	5880	5890	5900	5910	5920	5930	5940	5950	5960	5970	5980	5990	6000	6010	6020	6030	6040	6050	6060	6070	6080	6090	6100	6110	6120	6130	6140	6150	6160	6170	6180	6190	6200	6210	6220	6230	6240	6250	6260	6270	6280	6290	6300	6310	6320	6330	6340	6350	6360	6370	6380	6390	6400	6410	6420	6430	6440	6450	6460	6470	6480	6490	6500	6510	6520	6530	6540	6550	6560	6570	6580	6590	6600	6610	6620	6630	6640	6650	6660	6670	6680	6690	6700	6710	6720	6730	6740	6750	6760	6770	6780	6790	6800	6810	6820	6830	6840	6850	6860	6870	6880	6890	6900	6910	6920	6930	6940	6950	6960	6970	6980	6990	7000	7010	7020	7030	7040	7050	7060	7070	7080	7090	7100	7110	7120	7130	7140	7150	7160	7170	7180	7190	7200	7210	7220	7230	7240	7250	7260	7270	7280	7290	7300	7310	7320	7330	7340	7350	7360	7370	7380	7390	7400	7410	7420	7430	7440	7450	7460	7470	7480	7490	7500	7510	7520	7530	7540	7550	7560	7570	7580	7590	7600	7610	7620	7630	7640	7650	7660	7670	7680	7690	7700	7710	7720	7730	7740	7750	7760	7770	7780	7790	7800	7810	7820	7830	7840	7850	7860	7870	7880	7890	7900	7910	7920	7930	7940	7950	7960	7970	7980	7990	8000	8010	8020	8030	8040	8050	8060	8070	8080	8090	8100	8110	8120	8130	8140	8150	8160	8170	8180	8190	8200	8210	8220	8230	8240	8250	8260	8270	8280	8290	8300	8310	8320	8330	8340	8350	8360	8370	8380	8390	8400	8410	8420	8430	8440	8450	8460	8470	8480	8490	8500	8510	8520	8530	8540	8550	8560	8570	8580	8590	8600	8610	8620	8630	8640	8650	8660	8670	8680	8690	8700	8710	8720	8730	8740	8750	8760	8770	8780	8790	8800	8810	8820	8830	8840	8850	8860	8870	8880	8890	8900	8910	8920	8930	8940	8950	8960	8970	8980	8990	9000	9010	9020	9030	9040	9050	9060	9070	9080	9090	9100	9110	9120	9130	9140	9150	9160	9170	9180	9190	9200	9210	9220	9230	9240	9250	9260	9270	9280	9290	9300	9310	9320	9330	9340	9350	9360	9370	9380	9390	9400	9410	9420	9430	9440	9450	9460	9470	9480	9490	9500	9510	9520	9530	9540	9550	9560	9570	9580	9590	9600	9610	9620	9630	9640	9650	9660	9670	9680	9690	9700	9710	9720	9730	9740	9750	9760	9770	9780	9790	9800	9810	9820	9830	9840	9850	9860	9870	9880	9890	9900	9910	9920	9930	9940	9950	9960	9970	9980	9990	10000	10010	10020	10030	10040	10050	10060	10070	10080	10090	10100	10110	10120	10130	10140	10150	10160	10170	10180	10190	10200	10210	10220	10230	10240	10250	10260	10270	10280	10290	10300	10310	10320	10330	10340	10350	10360	10370	10380	10390	10400	10410	10420	10430	10440	10450	10460	10470	10480	10490	10500	10510	10520	10530	10540	10550	10560	10570	10580	10590	10600	10610	10620	10630	10640	10650	10660	10670	10680	10690	10700	10710	10720	10730	10740	10750	10760	10770	10780	10790	10800	10810	10820	10830	10840	10850	10860	10870	10880	10890	10900	10910	10920	10930	10940	10950	10960	10970	10980	10990	11000	11010	11020	11030	11040	11050	11060	11070	11080	11090	11100	11110	11120	11130	11140	11150	11160	11170	11180	11190	11200	11210	11220	11230	11240	11250	11260	11270	11280	11290	11300	11310	11320	11330	11340	11350	11360	11370	11380	11390	11400	11410	11420	11430	11440	11450	11460	11470	11480	11490	11500	11510	11520	11530	11540	11550	11560	11570	11580	11590	11600	11610	11620	11630	11640	11650	11660	11670	11680	11690	11700	11710	11720	11730	11740	11750	11760	11770	11780	11790	11800	11810	11820	11830	11840	11850	11860	11870	11880	11890	11900	11910	11920	11930	11940	11950	11960	11970	11980	11990	12000	12010	12020	12030	12040	12050	12060	12070	12080	12090	12100	12110	12120	12130	12140	12150	12160	1217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Alignment Report of Gram +& 23S align.MEG, using Clustal method with Weighted residue weight table.
Tuesday, November 27, 2001 4:15 PM

Tuesday, November 27, 2001 4:15 PM

FIG. 2B-26

Alignment Report of Gram +8- 23S align.MEG, using Clustal method with Weighted residue weight table.
Tuesday, November 27, 2001 4:15 PM

	2850	2860	2870	2880	2890	2900	
Baebilla 23S.SEQ	G...T.TG..A.CA.A.G...	G...A.A...	CG.T..AG.A...	A-T			2927
Banthracis 23S.SEQ	G...ATG.T..CAT..G...	G...G.GAA...	AG.T..AG.A...	A-T			2922
Biacellis 23S.SEQ	G...GCT..T..ACT.G...	GG..AA...	CGT..AG.A...	A-A			2912
Llactis 23S.SEQ	G...A.TT...GA.T.G...	GG..A...	CGT..AG.A...	A-A			2898
Imocycogenes 23S.SEQ	G...T.T...A.A.G...	CG..AA...	CG.T..AG.A...	A-A			2932
Saureus 23S.SEQ	G...ATG.T..CAT..G...	G...G.GAA...	CG.T..AG.A...	A-A			2923
Smutans 23S.SEQ	G...TT.T..CA..CA..G...	CG..AA...	CGT..AG.A...	A-A			2900
Spneumoniae 23S.SEQ	G...T.TG...CA.A.GT...	GG..TAA...	AGCT..AG.A...	A-A			2902
Spyogenes 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2901
Navium 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			3107
Ntuberculosis 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			3138
Ecoli 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2903
Kpneumoniae 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2897
Hinfluenzae 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2865
Bbrochiseptica 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2865
Bparapertussis 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2864
Bpertussis 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2878
Bcepacia 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2882
Bmalles 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2882
Bpseudomallei 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2890
Bgonorrhoeae 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2891
Bneminigitidis 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2891
Bpaeruginosa 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2886
Bcholerae 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			2906
Benterocolitica 23S.SEQ	G...T.T...A.A.GT...	CG..TAA...	AGCT..AG.A...	A-A			

Decoration 'Decoration #1': Hide (as '.') residues that match Ecoli 23S.SEQ exactly.

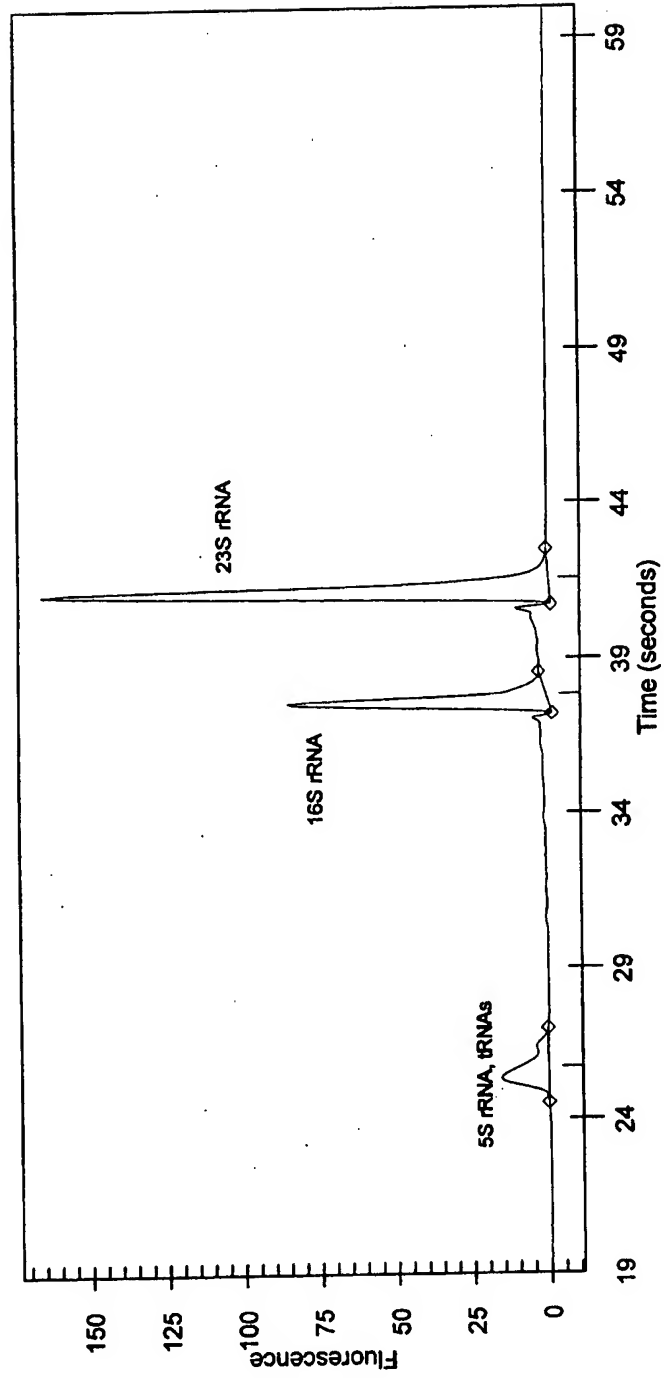


FIG. 3

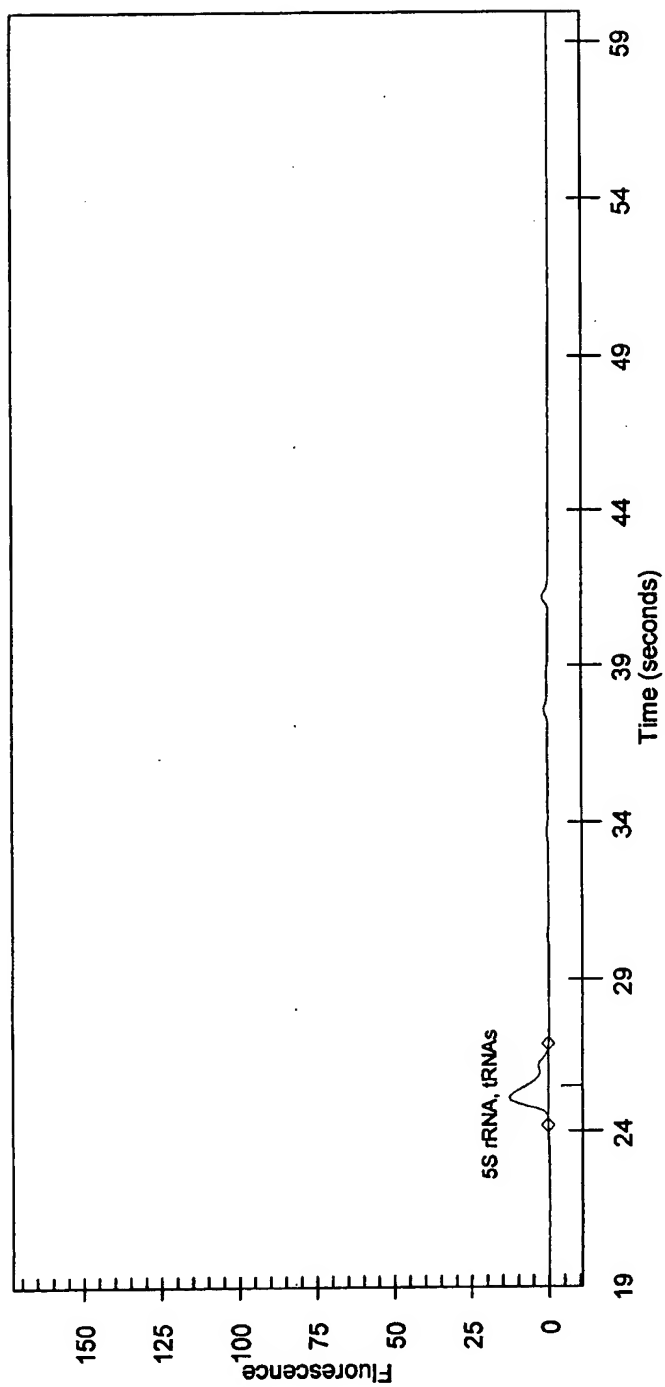


FIG. 4

FIG. 5A

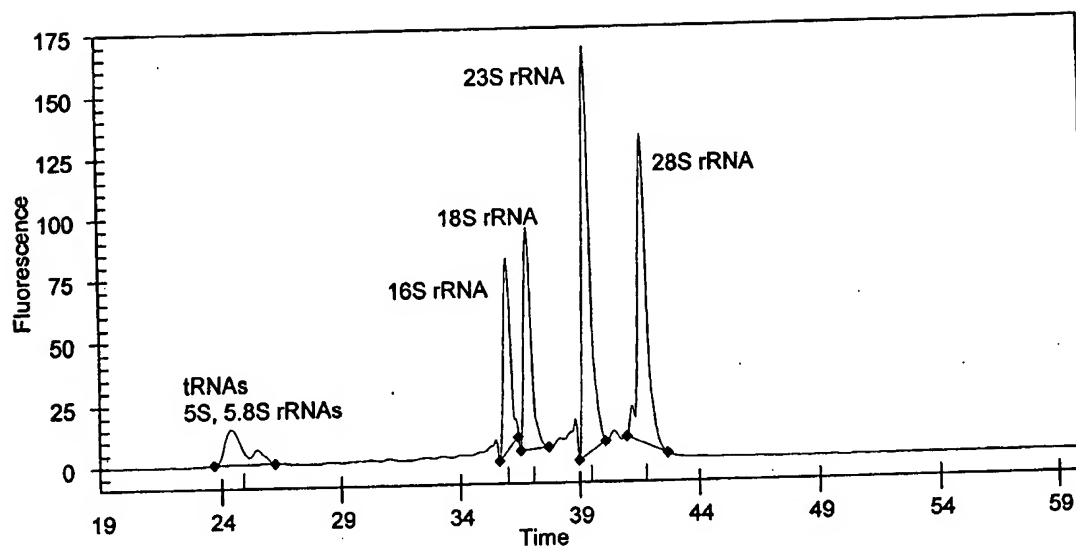


FIG. 5A

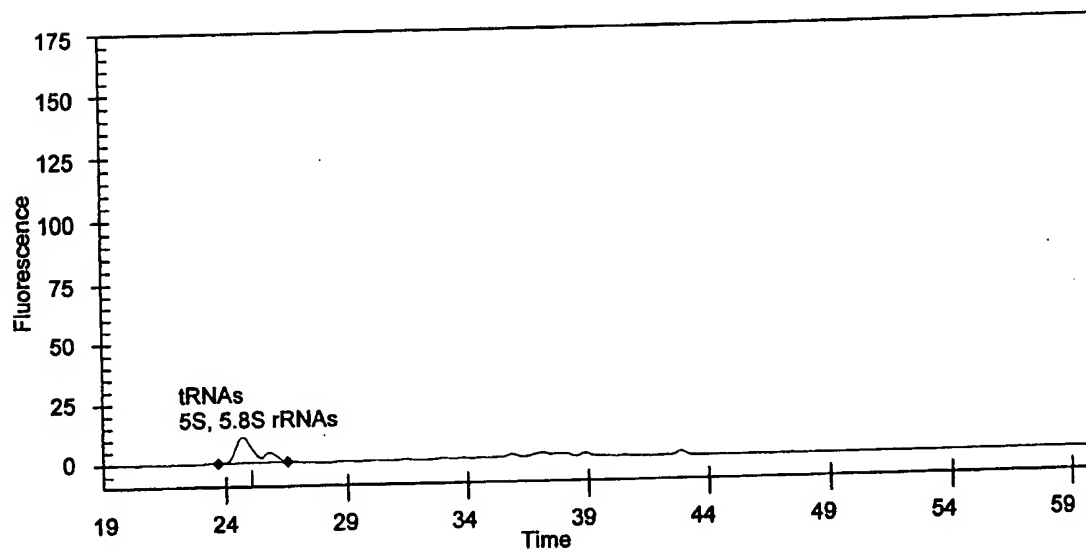


FIG. 5B

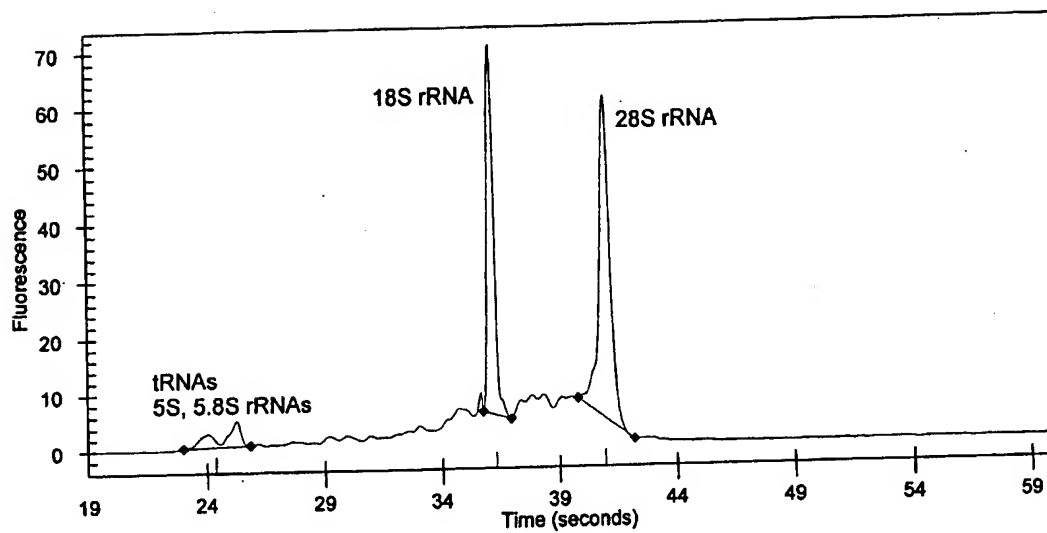


FIG. 6A

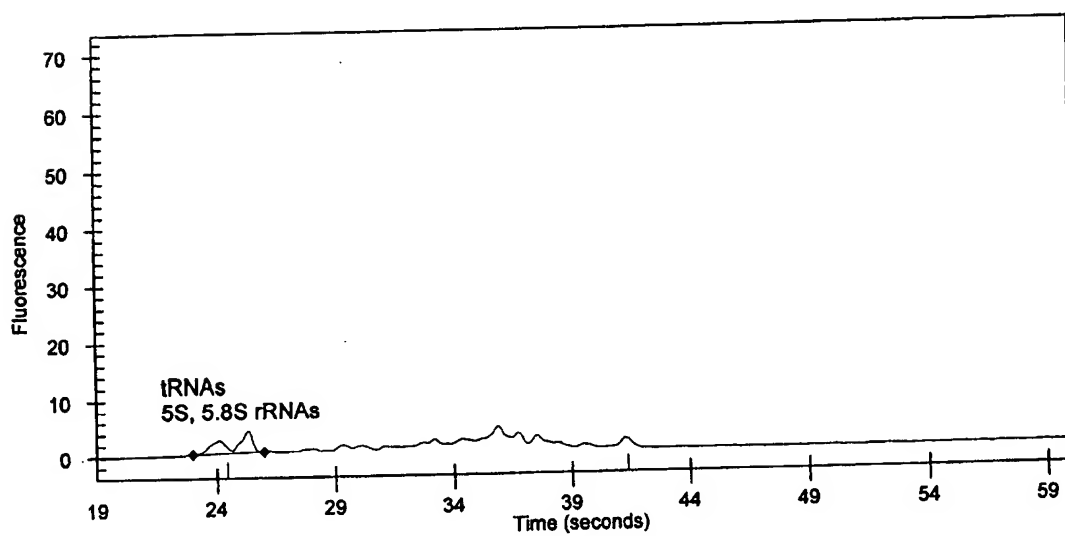


FIG. 6B

100227 266200

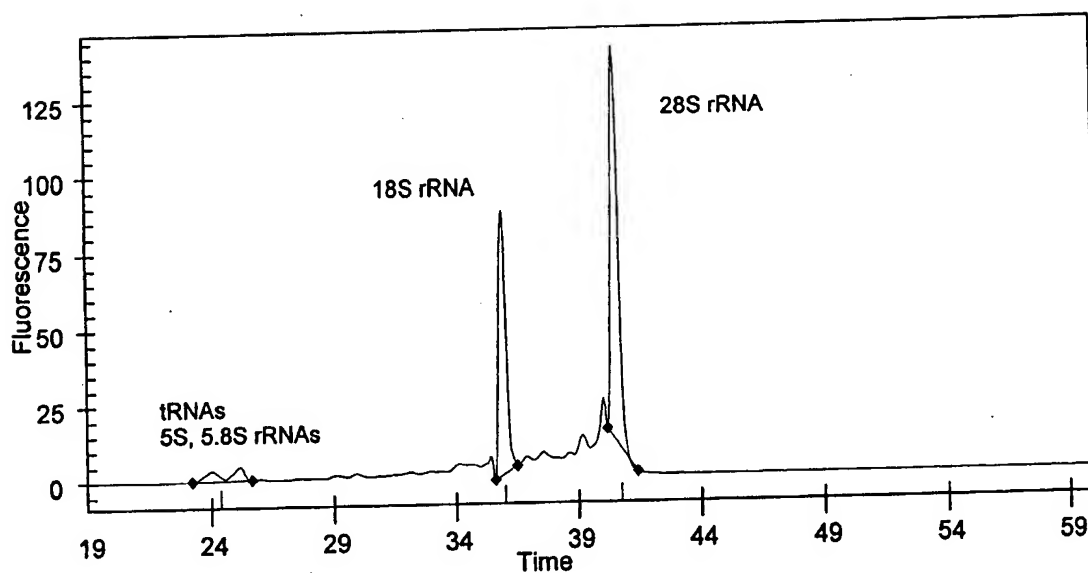


FIG. 7A

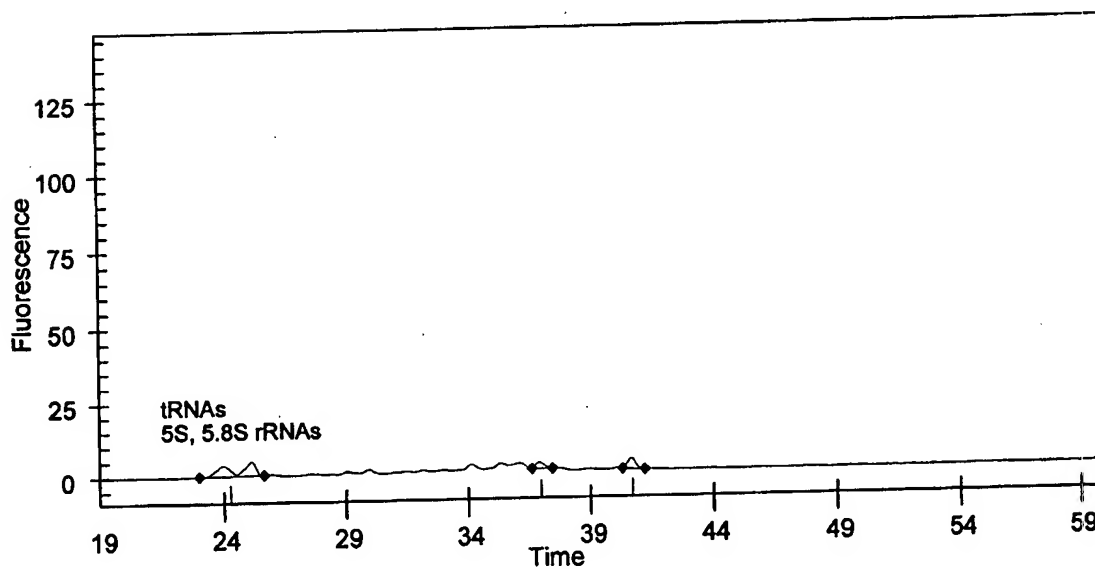


FIG. 7B

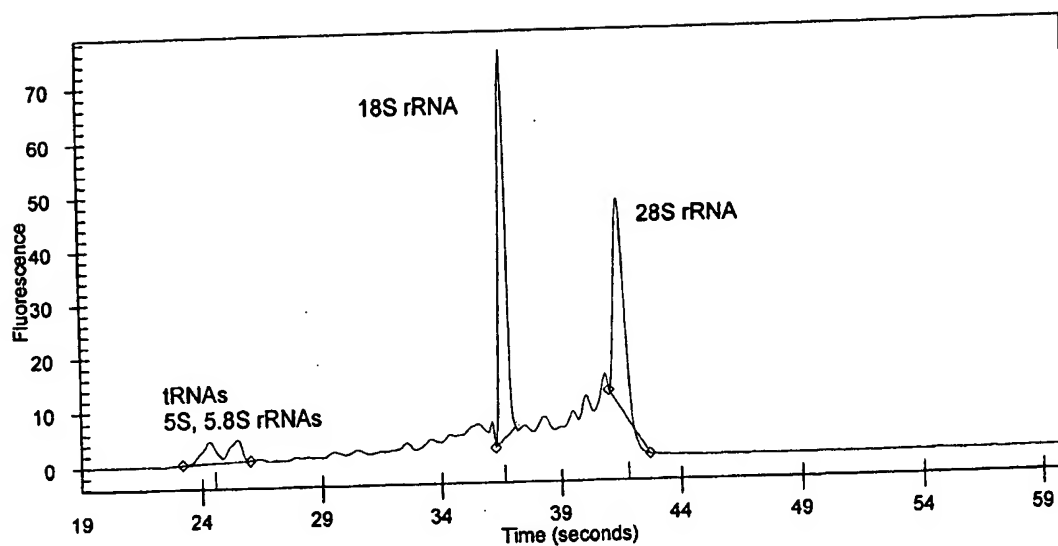


FIG. 8A

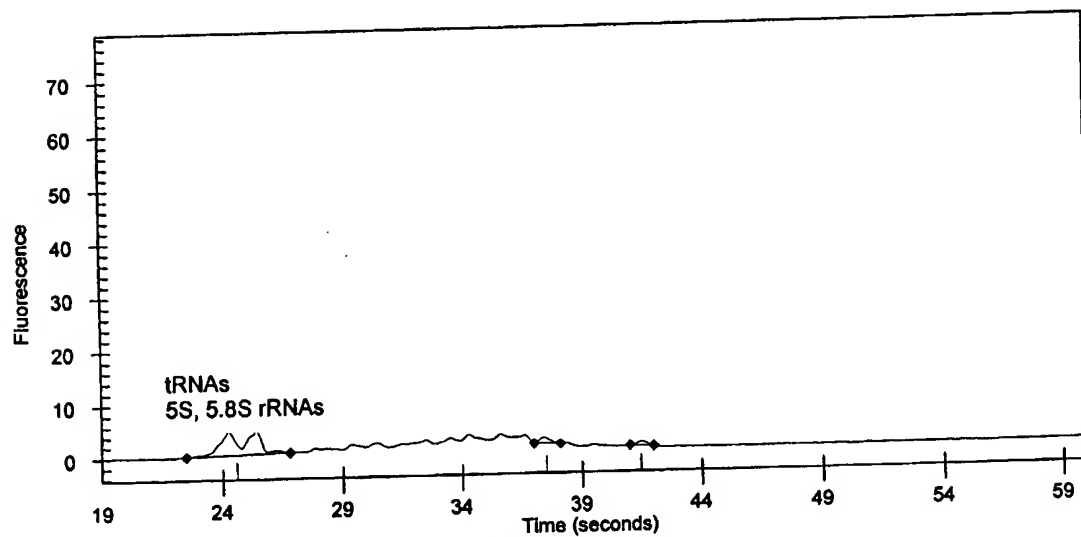


FIG. 8B

100227 4663001